

IN THE CLAIMS

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 3, 5 and 6, and ADD claims 7-12 in accordance with the following:

1. (Original) A controller for a wire electric discharge machine for performing electric discharge machining by generating electric discharge between a wire electrode and a workpiece while relatively moving the wire electrode and the workpiece, said controller comprising:

machining rate determining means for determining rate of machining by the electric discharge between the wire electrode and the workpiece; and

motion control means for controlling relative motion of the wire electrode and the workpiece based on the rate of machining determined by said machining rate determining means such that a speed of the relative motion is decreased when the rate of machining is increased.

2. (Original) A controller for the wire electric discharge machine according to claim 1, wherein said machining rate determining means obtains the number of times of electric discharge in each predetermined period, and determines the rate of machining based on comparison of the obtained number of times of electric discharge with a reference number of times of electric discharge.

3. (Currently Amended) A controller for the wire electric discharge machine according to claim 1, wherein said machining rate determining means obtains a voltage drop of an average machining voltage from a preset no-load voltage in each predetermined period, and determines the rate of machining based on comparison of the obtained voltage drop with a reference voltage drop.

4. (Original) A controller for a wire electric discharge machine for performing electric machining by generating electric discharge between a wire electrode and a workpiece while

relatively moving the wire electrode and the workpiece to each other, said controller comprising:

voltage drop calculation means for determining a voltage drop of an average machining voltage with respect to a preset no-load voltage in each predetermined period;

movement means for moving the wire electrode relative to the workpiece along a machining path according to motion commands;

reference value storage means storing a predetermined value representing a voltage drop of a reference average machining voltage with respect to the preset no-load voltage;

comparison means for comparing the voltage drop determined by said voltage drop calculation means and the predetermined value stored in said reference value storage means; and

control means for controlling the relative motion of the wire electrode in each predetermined period by outputting the motion command to said movement means based on a result of the comparison by said comparison means.

5. (Currently Amended) A controller for a wire electric discharge machine for performing electric machining by generating electric discharge between a wire electrode and a workpiece while relatively moving the wire electrode and the workpiece to each other, said controller comprising:

voltage drop determination means for determining a voltage drop of an average machining voltage with respect to a preset no-load voltage in each predetermined period;

movement means for moving the wire electrode relatively to the workpiece along a machining path according to motion commands;

reference value storage means storing a predetermined value representing a voltage drop of a reference average machining voltage with respect to the preset no-load voltage;

means for obtaining a ratio between the voltage drop determined by said voltage drop ~~calculation~~ determination means and the predetermined value stored in said reference value storage means; and

means for obtaining a motion amount by multiplying a distance of relative motion determined by a preset feed speed and the predetermined period by said ratio, and outputting the obtained motion amount to the movement means as the motion command in each predetermined period.

6. (Currently Amended) A controller for the wire electric discharge machine according to claim 5, wherein said ratio is determined as a ratio of the predetermined value stored in said reference value storage means to the voltage drop determined by said voltage drop ~~calculation~~ determination means.

7. (New) A controller of a wire electric discharge machine to perform electric discharge machining by generating electric discharge between a wire electrode and a workpiece while relatively moving the wire electrode and the workpiece, said controller comprising:

a machining rate determining part to determine a rate of machining by the electric discharge between the wire electrode and the workpiece; and

a motion control part to control relative motion of the wire electrode and the workpiece based on the rate of machining determined by said machining rate determining part such that a speed of the relative motion is decreased when the rate of machining is increased.

8. (New) A controller of the wire electric discharge machine according to claim 1, wherein said machining rate determining part obtains the number of times of electric discharge in each predetermined period, and determines the rate of machining based on comparison of the obtained number of times of electric discharge with a reference number of times of electric discharge.

9. (New) A controller of the wire electric discharge machine according to claim 1, wherein said machining rate determining part obtains a voltage drop of an average machining voltage from a preset no-load voltage in each predetermined period, and determines the rate of machining based on comparison of the obtained voltage drop with a reference voltage drop.

10. (New) A controller of a wire electric discharge machine to perform electric machining by generating electric discharge between a wire electrode and a workpiece while relatively moving the wire electrode and the workpiece to each other, said controller comprising:

a voltage drop calculator to determine a voltage drop of an average machining voltage with respect to a preset no-load voltage in each predetermined period;

a movement part to move the wire electrode relative to the workpiece along a machining path according to motion commands;

reference value storage storing a predetermined value representing a voltage drop of a reference average machining voltage with respect to the preset no-load voltage;

a comparison part to compare the voltage drop determined by said voltage drop calculator and the predetermined value stored in said reference value storage; and

a controller to control the relative motion of the wire electrode in each predetermined period by outputting the motion command to said movement part based on a result of the comparison by said comparison part.

11. (New) A controller of a wire electric discharge machine to perform electric machining by generating electric discharge between a wire electrode and a workpiece while relatively moving the wire electrode and the workpiece to each other, said controller comprising:

a voltage drop determination part to determine a voltage drop of an average machining voltage with respect to a preset no-load voltage in each predetermined period;

a movement part to move the wire electrode relatively to the workpiece along a machining path according to motion commands;

a reference value storage storing a predetermined value representing a voltage drop of a reference average machining voltage with respect to the preset no-load voltage;

a ratio calculator to obtain a ratio between the voltage drop determined by said voltage drop determination part and the predetermined value stored in said reference value storage; and

a motion calculator to obtain a motion amount by multiplying a distance of relative motion determined by a preset feed speed and the predetermined period by said ratio, and outputting the obtained motion amount to the movement part as the motion command in each predetermined period.

12. (New) A controller of the wire electric discharge machine according to claim 5, wherein said ratio is determined as a ratio of the predetermined value stored in said reference value storage to the voltage drop determined by said voltage drop determination part.